Marine Life Protection Act Initiative

Central Coast Project

Final SAT Size & Spacing Evaluations

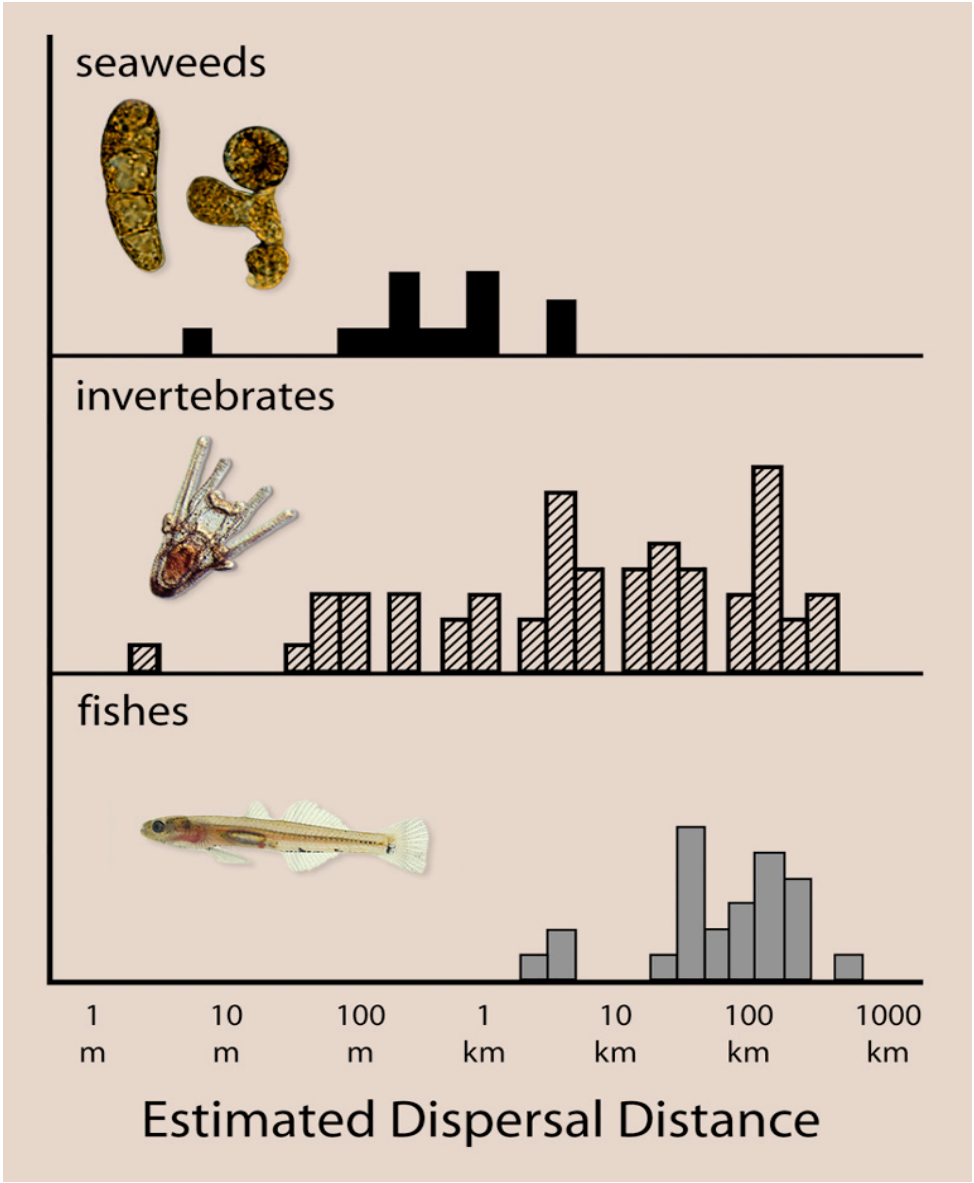
Presented to the Blue Ribbon Task Force

Steve Gaines • March 14, 2006

Master Plan Framework Guidelines

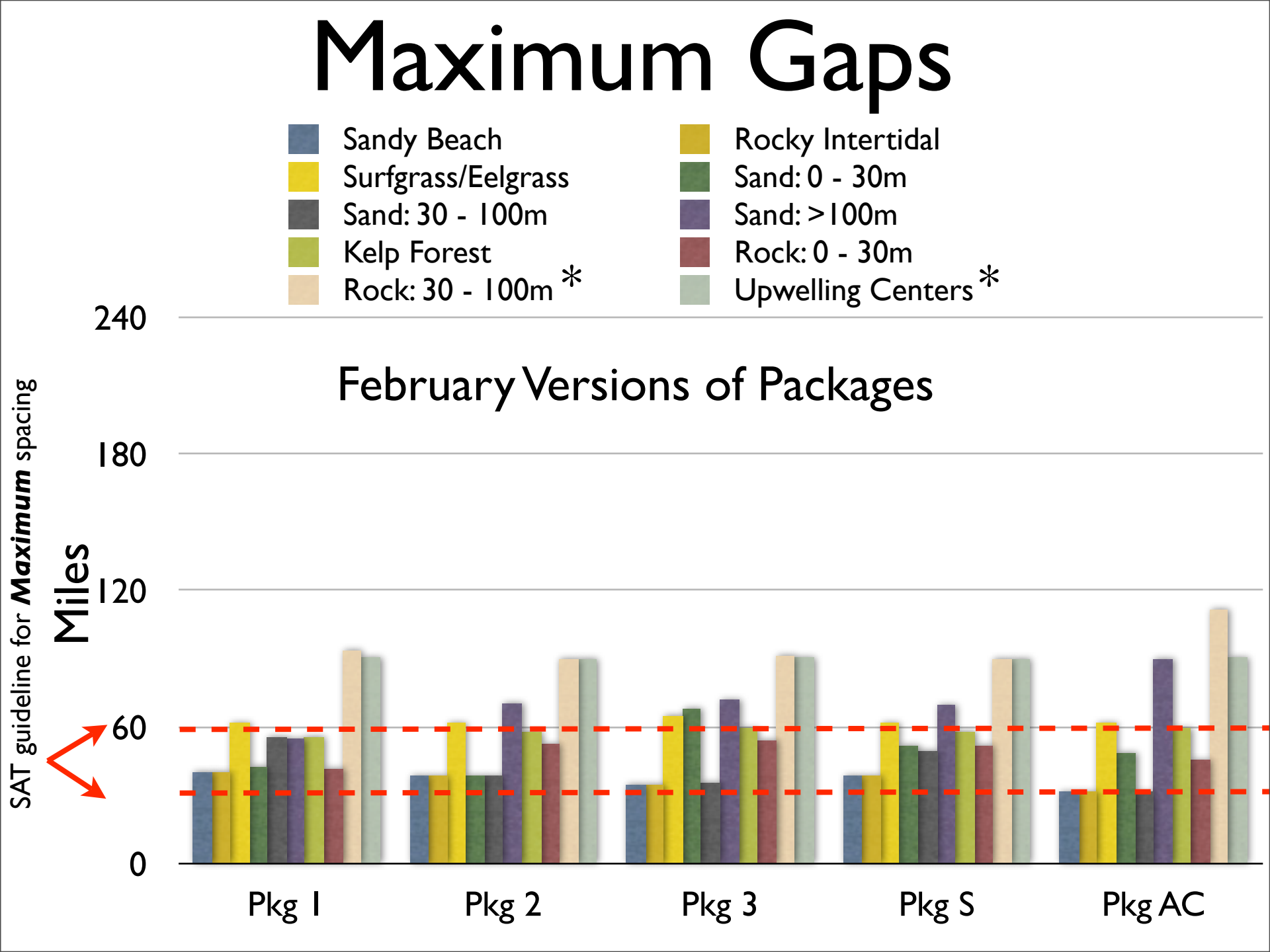
- Spacing
  - "For an objective of facilitating dispersal of important bottom-dwelling fish and invertebrate groups among MPAs, based on currently known scales of larval dispersal, **MPAs should be placed within 50-100 km** (31-62 m or 27-54 nm) of each other."

Source of the Spacing Guideline



Large Gaps are Not Spanned by Short Dispersers

Maximum Gaps



Spacing Summary

Maximum Distance in Miles

Pkg	Average Maximum	Largest Gap	Gaps >> Guideline*
1	60	94	0
2	58	91	0
3	61	92	0
S	56	90	0
AC	60	112	2

Spacing Analyses

- All revised packages meet the MPF guidelines for maximum spacing for all habitats

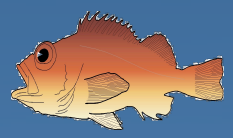
Master Plan Framework Guidelines

- Size #1
  - "For an objective of protecting adult populations, based on adult neighborhood sizes and movement patterns, MPAs should have an **alongshore span of 5-10 km** (3-6 m or 2.5- 5.4 nm) of coastline, and **preferably 10-20 km** (6-12.5 m or 5.4-11 nm). Larger MPAs would be required to fully protect marine birds, mammals, and migratory fish."

Minimum Guideline

Preferable Guideline

0 – 1 km	1 – 10 km	10 – 100 km	100 – 1000 km	> 1000 km
Invertebrates Abalone Mussel Octopus Sea Star Snail Urchin Rockfishes Blk. & Yellow China Gopher Kelp Other Fishes Gobie Sculpin	Rockfishes Black Brown Copper Greenspotted Olive Vermilion Other Fishes Cabezon Ca. Halibut Lingcod	Invertebrates Dung. Crab* Rockfishes Bocaccio Canary Yellowtail Widow Other Fishes Anchovy Herring Sardine Birds Gulls Cormorants Mammals Harbor Seal Otter	Fishes Big Skate Pacific Halibut Sablefish* Salmonids* Sturgeon Whiting* Birds Gulls* Mammals Porpoises Sea Lions*	Invertebrates Jumbo Squid* Fishes Sharks* Tunas* Turtles* Birds Albatross* Pelican* Shearwater* Shorebirds* Terns* Mammals Dolphins Sea Lions* Whales*



* Seasonal Migration

Master Plan Framework Guidelines

- Size #2
  - "For an objective of protecting the diversity of species that live at different depths and to accommodate the movement of individuals to and from shallow nursery or spawning grounds to adult habitats offshore, MPAs should **extend from the intertidal zone to deep waters offshore**."

→ 3 miles offshore

MPA Alongshore Span

Pkg	# of MPA Clusters	At or Above Minimum	High Protection At or Above Minimum
I	15	14	11
2	16	15	13
3	18	15	15
S	18	16	16
AC	17	15	14

MPA Cluster Areas

Pkg	# of MPA Clusters	At or Above Minimum	High Protection At or Above Minimum
I	11	8	6
2	12	9	9
3	13	10	9
S	14	12	9
AC	12	12	9

MPA Cluster Areas

Pkg	# of MPA Clusters	At or Above Minimum	High Protection At or Above Minimum
I	11	8	6
2	12	9	9
3	13	10	9
S	14	12	9
AC	12	12	9

MPA Cluster Areas

Pkg	# of MPA Clusters	At or Above Minimum	High Protection At or Above Minimum	High Protection in Preferable Size Range
I	11	8	6	2
2	12	9	9	7
3	13	10	9	4
S	14	12	9	4
AC	12	12	9	6

Does the # of Large MPAs Matter?

0 – 1 km	1 – 10 km	10 – 100 km	100 – 1000 km	> 1000 km
Invertebrates	Rockfishes	Invertebrates	Fishes	Invertebrates
Abalone	Black	Dung. Crab*	Big Skate	Jumbo Squid*
Mussel	Brown	Rockfishes	Pacific Halibut	Fishes
Octopus	Copper	Bocaccio	Sablefish*	Sharks*
Sea Star	Greenspotted	Canary	Salmonids*	Tunas*
Snail	Olive	Yellowtail	Sturgeon	Turtles*
Urchin	Vermilion	Widow	Whiting*	Birds
Rockfishes	Other Fishes	Other Fishes	Birds	Albatross*
Blk. & Yellow	Cabezon Ca.	Anchovy	Gulls*	Pelican*
China	Halibut	Herring	Mammals	Shearwater*
Gopher	Lingcod	Sardine	Porpoises	Shorebirds*
Kelp		Birds	Sea Lions*	Terns*
Other Fishes		Gulls		Mammals
Gobie		Cormorants		Dolphins
Sculpin		Mammals		Sea Lions*
		Harbor Seal		Whales*
		Otter		

* Seasonal Migration